

D<sup>1</sup>

43. A composition comprising at least one recombinase and a double D-loop comprising a target nucleic acid and a first single stranded targeting polynucleotide comprising a first homology clamp that is substantially complementary to a preselected target nucleic acid sequence, a second homology clamp that is substantially complementary to said preselected target nucleic acid sequence, and a first locking nucleic acid positioned between said first and second homology clamps of said first polynucleotide wherein said first locking nucleic acid stabilizes the complex so formed by a secondary structure.

D<sup>2</sup>

113. The composition of claim 43 further comprising a second single stranded targeting polynucleotide comprising a first homology clamp that is substantially complementary to said preselected target nucleic acid sequence, a second homology clamp that is substantially complementary to said preselected target nucleic acid sequence, and a second locking nucleic acid positioned between said first and second homology clamps of said second polynucleotide wherein said second locking nucleic acid stabilizes the complex so formed by a secondary structure.

D<sup>3</sup>

44. The composition of claim 113 further comprising a secondary probe, wherein said probe is substantially complementary to at least one of said single stranded polynucleotides and wherein said probe forms a lock structure with at least one of said locking nucleic acids.

D<sup>4</sup>

60. The composition of claims 43 or 113 wherein at least one of said single stranded targeting polynucleotides comprises at least one substituent.

D<sup>5</sup>

64. A cell comprising a composition selected from claim 43.

D<sup>6</sup>

108. A kit comprising at least one recombinase and a first and a second single stranded targeting polynucleotide, wherein said first and said second targeting polynucleotides are

substantially complementary to each other and further wherein said first and said second targeting polynucleotides each comprise:

- D6  
cancel*
- a) a first and a second homology clamp [that] wherein said first and said second homology clamps substantially correspond to or are substantially complementary to a preselected target nucleic acid sequence; and
  - b) a locking nucleic acid positioned between said first and said second homology clamps wherein said locking nucleic acid stabilizes the complex so formed by a secondary structure.
- 

*D7*

112. A composition comprising a double D-loop comprising a target nucleic acid and a first and a second single stranded targeting polynucleotide, wherein said first and said second targeting polynucleotides are substantially complementary to each other and further wherein said first and said second targeting polynucleotides each comprise:

- i) a first and second homology clamp wherein said first and said second homology clamps substantially correspond to or are substantially complementary to a preselected target nucleic acid sequence of said target nucleic acid and to each other; and
  - ii) a locking nucleic acid positioned between said first and said second homology clamps wherein said locking nucleic acid stabilizes the complex so formed by a secondary structure and wherein said locking nucleic acid forms a lock and further wherein a protein binds to said lock.
- 

#### REMARKS

Claims 43, 113, 108 and 112 have been amended to recite a locking nucleic acid sequence that is positioned between a first and second homology clamp in which the locking nucleic acid stabilizes the complex so formed by a secondary structure. Support for amended claims 43, 113, 108, and 112 is found on page 19, line 22 and page 21, line 32, as is shown and described in Figure 2. Claim 44 has been amended to be consistent